WHAT IS CLAIMED IS:

1. A gamma camera system having a small field of view comprising a plurality of modules, a support on which the modules are mounted, a module interface including signal amplifier and first detection logic, a computer interface for mounting in a computer and connecting to an internal bus in the computer, a serial data connection between the module interface and the computer interface, each said module including a scintillation crystal array, a photodiode array coupled to the scintillation crystal array, second detection logic coupled to the array of photodiodes for reception of data in parallel and to determine the crystal of highest peak analog signal and its address in the array and providing an output thereof, the first detection logic of the module interface receiving the analog outputs of the second detection logics and determining the crystal of the highest peak analog signal of all the modules and its address in the arrays and providing an analog output thereof, an analog-to-digital converter receiving the output of the first detection logic and outputting a corresponding digital signal, a first controller mounted on the module interface to receive said digital signals and to output in serial data fashion, a serial connection between the module interface and the computer interface receiving the serialized digital data signals output by the first controller, a second controller mounted on the computer interface receiving the serialized digital data signals from the serial connection, microprocessor with memory mounted on the computer interface to receive the digital data signals from the second controller, store the signals and output the signals in parallel data fashion to the computer via its internal bus.

2. A gamma camera system having a small field of view according to claim 1 wherein the second detection logic includes a PETRIC circuit.

3. A gamma camera system having a small field of view according to claim 2 wherein the PETRIC circuit includes a "winner-take-all" circuit.

4. A gamma camera system having a small field of view according to claim 1 wherein the second detection logic includes a programmable non-volatile memory.

5. A gamma camera system having a small field of view according to claim 1 wherein the first detection logic includes a PETRIC circuit.

6. A gamma camera system having a small field of view according to claim 5 wherein the PETRIC circuit includes a "winner-take-all" circuit.

7. A gamma camera system having a small field of view according to claim 1 wherein the first controller includes programmable logic devices.

8. A gamma camera system having a small field of view according to claim 1 wherein the first controller includes a microprocessor.

9. A gamma camera system having a small field of view according to claim 1 wherein second controller includes programmable logic devices.

10. A gamma camera system having a small field of view according to claim 1 wherein a high voltage power supply is provided on the computer interface.

11. A gamma camera system having a small field of view according to claim 1 wherein the computer interface includes PCI circuitry to couple to a computer internal PCI bus.

12. A gamma camera for use in a gamma camera system with a small field of view comprising a plurality of modules, a support on which the modules are mounted, a module interface including signal amplifier and first detection logic, each said module including a scintillation crystal array, a photodiode array coupled to the scintillation crystal array, second detection logic coupled to the array of photodiodes for reception of data in parallel and to determine the crystal of highest peak analog signal and its address in the array and providing an output thereof, the first detection logic of the module interface receiving the analog outputs of the second detection logics and determining the crystal of the highest peak analog signal of all the modules and its address in the arrays and providing an analog output thereof, an analog-to-digital converter receiving the output of the first detection logic and outputting a corresponding digital signal, a controller mounted on the module interface to receive said digital signals and to output in serial data fashion to a serial connection between the module interface and a computer for introduction into the computer via its internal bus.

13. A gamma camera having a small field of view according to claim 12 wherein the second detection logic includes a PETRIC circuit.

14. A gamma camera having a small field of view according to claim 13 wherein the PETRIC circuit includes a "winner-take-all" circuit.

15. A gamma camera having a small field of view according to claim 12 wherein the second detection logic includes a programmable non-volatile memory.

16. A gamma camera having a small field of view according to claim 12 wherein the first detection logic includes a PETRIC circuit.

17. A gamma camera having a small field of view according to claim 16 wherein the PETRIC circuit includes a "winner-take-all" circuit.

18, A gamma camera having a small field of view according to claim 12 wherein the first controller includes programmable logic devices.

19. A gamma camera having a small field of view according to claim 12 wherein the first controller includes a microcontroller.

20. A gamma camera having a small field of view according to claim 12 wherein the second controller includes programmable logic devices.

21. A gamma camera according to claim 12 wherein four modules are arranged in a 2 x 2 array, and wherein each module provides an 8 x 8 array.

22. A gamma camera according to claim 21 wherein each module is about 20 mm wide and 20 mm long and includes CsI(Tl) crystals about 2.25 mm x 2.25 mm x 5 mm deep.

23. A gamma camera according to claim 22 wherein module includes 8 x 8 Si PIN photodiodes.

24. A gamma camera system having a small field of view comprising a plurality of modules, a module support board on which the modules are mounted, a module interface board, signal amplifier and detection logic mounted on the module support board, a computer interface board mounted in a computer and connected to an internal bus in the computer, a serial connection between the module support board and the computer interface board, each said module including a scintillation crystal array, a photodiode array coupled to the scintillation crystal array, a first PETRIC circuit coupled to the array of photodiodes in parallel to determine the crystal of highest peak analog signal and its address in the array and providing an output thereof, a second PETRIC circuit receiving the analog outputs of the first PETRIC circuits and determining the crystal of the highest peak analog signal of all the modules and its address in the arrays and providing an output thereof, an analog-to-digital converter receiving the output of

the second PETRIC and outputting a corresponding digital signal, a first programmable field gate array mounted on the module interface board to receive said digital signal and to output in serial fashion, a serial connection between the module interface board and the computer interface board receiving the serialized digital signals output by the first programmable field gate array, a second programmable field gate array mounted on the computer interface board receiving the serialized digital signals from the serial connection, microprocessor with memory mounted on the computer interface board to receive the digital signals from the second programmable field gate array, store the signals and output the signals in parallel fashion, and a circuit mounted on the computer interface board to receive the signals in parallel from the microprocessor and to forward them to the computer via its internal bus.

25. A gamma camera system according to claim 24 where in an EEPOT is mounted on the module support board controlling the module.

26. A method of imaging comprising the steps of

h. detecting on a pixel by pixel basis gamma radiation by a small field of view camera having a module array,

i. amplifying and determining the pixel of each module with the highest amplitude signal,

j. sending the determined amplitude signals of all the modules in parallel to a circuit to select, as between these determined amplitude signals, which pixel has the highest amplitude,

k. reading the pixel address of the selected pixel in digital form,

l. converting the highest amplitude of the selected pixel into digital form,

m. sending the digital signals via a serial interface to a computer interface board and storing the signals in a memory, and

n. sending the stored signals in parallel to an input bus of the computer for display by the computer.

27. The method of claim 26 wherein steps a. and b. are performed by a PETRIC.

28. The method of claim 26 wherein the input bus is a PCI bus.